

REMARKS

Claims 24-44, and 83-95 are pending in the application. By this amendment, claims 24, 32-34, 36, and 42-44 are amended, and new claims 83-95 are added. The Applicants acknowledge with appreciation that claims 32-44 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. By this amendment, the Applicants have amended claims 32-34, 36, and 42-44 to be independent claims, each incorporating all the limitations of claims 24 and 29, from which claims 32-34, 36, and 42-44 originally depended. New dependent claims 83-95 depend from claim 29 and claim the same subject matter as claimed in the original claims 32-44 which also depended from claim 29. Now claims 25-31 and claims 83-95 all depend from independent, amended claim 24. Claim 24 as amended is believed to be patentable over the art of record as discussed below. The present application as originally filed supports the amendments and the new claims. No new matter has been added.

I. Claims 24-26 and 29-31 - Rejections under 35 U.S.C. 103(a)

Claims 24-26 and 29-31 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Shibano (JP 07163954A) in view of U.S. Patent No. 3,939,401 to Van Lenten, et al.

The independent claim 24 of the subject application has been amended to more clearly define the invention. The amended claim 24 now requires that the enclosure is adapted to isolate the sample liquid from the process liquid. Shibano uses a conductivity probe immersed in a process liquid to determine contamination level as a function of change in electrical conductivity of the process liquid. Shibano does not disclose an enclosure for housing a sample liquid and isolating the sample liquid from the process liquid. In contrast, in the subject application as defined in claim 24, the probe system includes an enclosure for housing a sample liquid, the enclosure being adapted to isolate the sample liquid from the process liquid.

Furthermore, claim 24 in the subject application requires that the sample liquid be responsive to the ultrasonic energy. In the subject application, during the cleaning process, the sample liquid will not be contaminated by the “contaminants” from the process liquid because the sample liquid is isolated from the process liquid. There is no contamination in the sample

liquid. Sensing the changes of the characteristics of the non-contaminated sample liquid (through sensing the conductivity of the sample liquid) provides a measurement of the energy transmitted to the process liquid and the sample liquid. Therefore, claim 24 is different from the device disclosed in Shibano, which is used to sense the contamination level in the process liquid.

Van Lenten is directed to fluid electrical conductivity measurement. The body member 7 defines an inner chamber 7, which has the electrodes disposed therein and is in fluid communication with the outside of the body member 7 through holes 15 and 17 defined through the walls of the body member 7. Therefore, Van Lenten does not disclose an enclosure that is adapted to isolate a sample liquid from a process liquid. Moreover, Van Lenten does not disclose a sample liquid being responsive to ultrasonic energy as required by claim 24.

Because neither Shibano nor Van Lenten teaches the limitations of claim 24 as discussed above, the combination of Shibano and Van Lenten cannot render claim 24 obvious. Therefore, claim 24 should be considered patentable over Shibano in view of Van Lenten.

Claims 25, 26, and 29-31 depend from claim 24. Therefore, claims 25, 26, and 29-31 all should be considered patentable over the cited references.

II. Claims 27 and 28-Rejections under 35 U.S.C. 103(a)

Claims 27 and 28 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Shibano in view of Van Lenten, et al. as applied to claims 24-26 and 29-31, and further in view of U.S. Patent No. 6,295,873 to Condreva.

Claims 27 and 28 depend from and present further limitations to claim 24. As discussed in Section I of this Response, claim 24 should be considered patentable over Shibano in view of Van Lenten, et al. Condreva is used for measuring transit time through a liquid sample. In contrast, the subject application discloses a two-isolated liquid system (a sample liquid and a process liquid) as claimed in claim 24. Condreva does not disclose or suggest a two-isolated liquid system. None of the cited references teaches or suggests a two-isolated liquid system, and therefore, the combination of the cited three references cannot render claim 24 obvious. Accordingly, claims 27 and 28, which depend from claim 24 should be considered patentable

over the cited references.

III. Claims 32-44 Objections

Claims 32-44 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 32-34, 36, and 42-44 originally depended on claim 29, which depended on claim 24. By this amendment, the Applicants have amended claims 32-34, 36, and 42-44 to be independent claims, each including all the limitations of claims 24 and 29. The Applicants respectfully submit that the amended independent claims 32-34, 36, and 42-44 are in condition for allowance now. Claim 35 which depends from claim 34, and claims 37-41 which depend from 36 also should be considered allowable. Therefore, claims 32-44 are in condition for allowance now.

IV. New Claims 83-95

New claims 83-95 are dependent claims, which depend directly or indirectly from claim 24. Claims 83-95 claim the same subject matter as claimed in the original claims 32-44. As discussed above, claim 24 should be considered patentable over the cited references, and therefore, claims 83-95 also should be considered patentable over the cited references.

Conclusion

Applicants, accordingly, respectfully submit that in view of the preceding amendments and arguments, claims 24-44 and 83-95 are in condition for allowance. If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

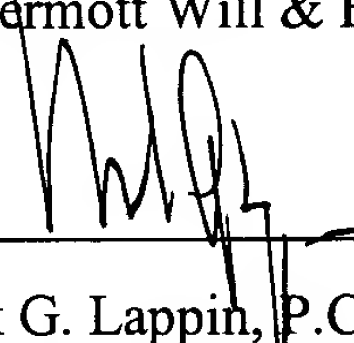
No additional costs are believed to be due in connection with the filing of this paper. However, the Commissioner is hereby authorized to charge any additional fees, or credit any overpayment, to our Deposit Account No. 50-1133.

Respectfully submitted,

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